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IN THE

Supreme Court of the United States

October Term, 1964

No. [redacted] 11

WILLIAM T. GRAHAM, and GRAHAM PLOW, INC.,
Petitioners,

v.

JOHN DEERE COMPANY OF KANSAS CITY, and DEERE & COMPANY, *Respondents*

Amicus Curiae Brief Of The Patent, Trade-Mark And Copyright Section Of The State Bar Of Texas (With The Consent Of The Board Of Directors Of The State Bar Of Texas)

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I.

PRELIMINARY STATEMENT

The written consent of all parties to this case to the filing of this brief has been obtained and filed with the Clerk.

In this case the District Court found the patent valid and infringed. The Eighth Circuit Court of Appeals reversed, holding that since the District Court failed to apply the proper legal test of invention, its finding of patentability was induced by an erroneous view of the law. The decision of the Eighth Circuit Court of Appeals was based upon the test announced by this Court in *Cuno Engineering Corp. v. Automatic Devices Corp.*, 314 U.S. 84, 62 S.Ct. 37, 86 L.Ed. 58 (1941).

It is the purpose of this amicus curiae brief to present for this Court's consideration information with respect to the legislative history of §103 of the Patent Codification Act (Title 35, U.S.C.) and subsequent opinions of the courts which, we believe, establish that the "flash of creative genius" test of the *Cuno* case of 1941 was eliminated by the second sentence of §103 of the Patent Codification Act of 1952. 66 Stat. 798, 35 U.S.C. §103 (1958).

II.

ARGUMENT

Summary of Argument

The legislative intent of the Congress to eliminate the "flash of creative genius" test announced in the *Cuno* case is clearly established by the second sentence of §103, the legislative history thereof and subsequent opinions of the courts.

Point A

The legislative history of the second sentence of §103 clearly reveals the legislative intent to eliminate the "flash of creative genius" test of the Cuno case.

Obviously, the legislative intent was to effect a substantive change in the law by excluding the test in the second sentence.

Section 103 is as follows:

> "A patent may not be obtained though the invention is not identically disclosed or described as set forth in Section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *Patentability shall not be negatived by the manner in which the invention was made.*" (Emphasis ours.)

The House and Senate Reports, including the Reviser's Note forming a part thereof, are the same. *In the Reviser's Note the first and second sentences of §103 are distinguished as follows:* (35 U.S.C. §103 [1958]).

> "There is no provision corresponding to the first sentence explicitly stated in the present statutes, but the refusal of patents by the Patent Office, and the holding of patents invalid by the Courts, on the ground of lack of invention or lack of patentable novelty has been followed since at least as early as 1850. This paragraph is added with the view that an explicit statement in the statute may have some stabilizing effect,

and also to serve as a basis for the addition at a later time of some criteria which may be worked out."

"The second sentence states that patentability as to this requirement is not to be negatived by the manner in which the invention was made, that is, it is immaterial whether it resulted from long toil and experimentation or from a flash of genius." (Emphasis ours.)

In the commentary by Mr. Charles J. Zinn, the House Committee's law revision counsel, the following statement is made: (2 U.S. Code Cong. & Ad. News, 82nd Congress, Second Session, 1952, at p. 2513).

"Section 103 is a restatement of the rule invalidating patents for lack of invention or lack of patentable novelty which has long been recognized by the Courts and other authorities but has not before been spelled out in the statute.

"The second sentence of this section providing that patentability shall not be negatived by the manner in which the invention was made eliminates the 'flash of genius' concept that has been considered as an essential element of patentability since the Cuno case. In that case (Cuno Engineering Corp. v. Automatic Devices Corp., 314 U.S. 84, 62 S.Ct. 37, 86 L.Ed. 58) *the Supreme Court held that 'the new device, however useful it may be, must reveal the flash of creative genius, not merely the skill of the calling'. The patentability of an invention resulting from arduous experimentation will not be negatived solely because it does not meet that concept."* (Emphasis ours.)

It thus appears that §103 should be construed to mean that if the differences between the patented subject matter and the prior art are such that the subject matter would not have been obvious to one skilled in the art at the time

the alleged invention was made, the patent is valid, and it is not necessary that the patented invention be the result of a "flash of creative genius."

Point B

Point A above is supported by the opinions of many Courts.

In *Lyon v. Bausch & Lomb Optical Co.*, 224 F.2d 530, 106 U.S.P.Q. 1 (2 Cir. 1955), cert. den. 350 U.S. 911, Judge Learned Hand said (page 535 of 224 F.2d):

> "The Courts of Appeal have very generally found in the recent opinions of the Supreme Court a disposition to insist upon a stricter test of invention than it used to apply * * *"

and, with reference to the *Cuno* case (page 536 of 224 F.2d):

> "* * * which in expression probably was the furtherest departure * * *."

In *E. J. Brooks Co. v. Stoffel Seals Corp.*, 266 F.2d 841, 121 U.S.P.Q. 333 (2 Cir. 1959), cert. den. 361 U.S. 883, Judge Lumbard in his dissenting opinion said (page 846 of 266 F.2d):

> "The establishment of a more liberal standard than the 'flash of creative genius' doctrine enunciated in the Cuno case was apparently one of the principal reasons why Congress passed the 1952 Patent Act, 35 U.S.C. §101 ff., especially §103. See e.g. Reviser's Note to §103, 2d Para.; Note, 44 Georgetown L.J. 100 (1955); Harris, Some Aspects of Legislative Intent of the Patent Act of 1952, 23 Geo. Wash. L.Rev. 658, 676 ff.

(1955). We so held in Lyon v. Bausch & Lomb Optical Co., supra, where the Cuno decision was cited as 'the furthest departure' (224 F.2d 536) from the test of Hotchkiss v. Greenwood, 1851, 11 How. 248, 267, 13 L.Ed. 683, to which the 1952 enactment was held to have returned devoid of intervening glosses." * * *

"Thus we have recognized that the 1952 Patent Act has overruled Picard v. United Aircraft Corp., 2 Cir., 1942, 128 F.2d 632, and that Congress has made it clear that what was said in Cuno Engineering Corp. v. Automatic Devices Corp., 1941, 314 U.S. 84, 91, 62 S.Ct. 37, 87 L.Ed. 58, about a 'flash of creative genius' was not a proper test of invention."

And (pages 846-47 of 266 F.2d):

"In my view the citation of the Cuno case in Judge Clark's footnotes is apt to be misleading as the implications of its 'flash of creative genius' phrase, whether dictum or not, has been repudiated by the paramount authority of the Congress. Other circuits which have expressly adopted the analysis of Lyon v. Bausch & Lomb Optical Co., supra, are the District of Columbia, L-O-F Glass Fibers Co. v. Watson, 1955, 97 U.S. App. D.C. 69, 228 F.2d 40, 47 and note 14; Third Circuit, R. M. Palmer v. Luden's, Inc., 1956, 236 F.2d 496, 500; Fourth Circuit, Brown v. Brock, 1957, 240 F.2d 723. Only the First Circuit appears to have considered and rejected it. See, e.g., Hawley Products Co. v. United States Trunk, 1958, 259 F.2d 69."

In *Reiner v. I. Leon Co., Inc.*, 285 F.2d 501, 128 U.S.P.Q. 25 (2 Cir. 1960), cert. den. 366 U.S. 929, Judge Hand said (page 503 of 285 F.2d):

"There can be no doubt that the Act of 1952 meant to change the slow but steady drift of judicial de-

> cision that had been hostile to patents which made it possible for Mr. Justice Jackson in dissent to speak of the 'strong passion in this Court for striking them' (patents) 'down so that the only patent that is valid is one which this Court has not been able to get its hands on.' Jungerson v. Ostby & Barton Co., 335 U.S. 560, 572, 69 S.Ct. 269, 274, 93 L.Ed. 235. That was in 1945, while the test laid down in Hotchkiss v. Greenwood, 11 How. 248, 266, 13 L.Ed. 683, still had a nominal authority, of which little remained in actual application. We still cannot escape the conclusion—as we could not when Lyon v. Bausch & Lomb, supra, was decided in 1955—that Congress deliberately meant to restore the old definition, and to raise it from a judicial gloss to a statutory command."

In *R. M. Palmer Co. v. Luden's Inc.*, 236 F.2d 496, 111 U.S.P.Q. 1, (3 Cir. 1956), the Court *sitting en banc* said in an opinion by Judge Kalodner (page 499 of 236 F.2d):

> "The provisions of Section 103, 35 U.S.C., 1952 Ed., as set forth in footnote 3, are new. The purpose of the provisions as stated by the Reviser is to achieve a stabilizing effect, and to render immaterial whether the invention resulted from 'flash of genius'."

and (page 500 of 236 F.2d):

> "There is no longer any doubt that the 'flash of genius' has been laid to rest."

In *Plax Corp. v. Precision Extruders, Inc.*, 239 F.2d 792, 112 U.S.P.Q. 150 (3 Cir. 1957), Judge Biggs said at page 794:

"We enunciated our interpretation of section 103 in R. M. Palmer Co. v. Luden's, Inc., 3 Cir. 1956, 236 F.2d 496, and of recent date in Newburgh Moire Co., Inc. v. Superior Moire Co., Inc., 3 Cir., 1956, 237 F.2d 283. We need not repeat in detail here what was said there. It is not necessary that an invention result from a 'flash of genius.' We think that Ferngren's work involved 'more ingenuity * * * than the work of a mechanic skilled in the art'."

In *Marvel Specialty Co., Inc. v. Bell Hosiery Mills, Inc.*, 330 F.2d 164, 141 U.S.P.Q. 269, (4 Cir. 1964), cert. den. 13 L.Ed.2d 175 (No. 396, Nov. 9, 1964), Judge Boreman said (page 169 of 330 F.2d):

"The extent to which the enactment of section 103 of the statute altered prior law is not altogether clear. See Berry Brothers Corporation v. Sigman, 317 F.2d 700, 704, (4 Cir. 1963); Triumph Hosiery Mills, Inc. v. Alamance Industries, Inc., 299 F.2d 793, 800, (4 Cir.) cert. denied, 370 U.S. 924, 82 S.Ct. 1566, 8 L.Ed.2d 504 (1962). It is apparent, however, that something less than a 'flash of genius' or 'inventive genius' may fulfill the mandate of the statute. Berry Brothers Corporation v. Sigmon, supra; Reiner v. I. Leon Co., 285 F.2d 501, (2 Cir. 1960) (L. Hand), cert. denied, 366 U.S. 929, 81 S.Ct. 1649, 6 L.Ed.2d 388 (1961). A number of cases, both before and after enactment of the statute, have undertaken to comprehensively set forth the standard of invention to be used as a test for determining patent validity. When the mass of verbiage has been distilled, however, we have little more to giude us than the test which is incorporated in section 103, that is, whether, in view of the prior art, the subject matter of the patent would have been obvious at the time of the invention to a person having ordinary skill in the art."

In *L-O-F Glass Fibers Co. v. Watson, Comr. Pats.*, 228 F.2d 40, 107 U.S.P.Q. 197 (1955), the Court of Appeals for the District of Columbia cited with approval Judge Learned Hand's opinion in *Lyon v. Bausch & Lomb Optical Co.*, 224 F.2d 530, 535-36, 106 U.S.P.Q. 1, 6-7 (2d Cir. 1955).

Point C

The elimination of the "flash of creative genius" test by §103 is in the public interest.

The basic constitutional purpose of our patent system is "to promote the progress of science and useful arts". (Constitution Article I, Section 8, Clause 8) The military power and industrial prosperity of our nation are built upon substantial advances in science and useful arts. Therefore, the public interest requires that inventors be encouraged to make substantial advances.

To tell the inventors of our nation that they must have a "flash of creative genius" to obtain a patent, even though they make a substantial advance in the art, is to discourage invention and thereby discourage the progress of science and useful arts. So the Congress acted in the public interest when it enacted §103 to eliminate the "flash of creative genius" test.

III.

CONCLUSION

It is therefore respectfully suggested that this case presents a need for a decision by this Court that the "flash

of creative genius" test of the *Cuno* case has been eliminated by §103 of the Patent Codification Act.

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that copies of the foregoing AMICUS CURIAE BRIEF OF THE PATENT, TRADE-MARK AND COPYRIGHT SECTION OF THE STATE BAR OF TEXAS (WITH THE CONSENT OF THE BOARD OF DIRECTORS OF THE STATE BAR OF TEXAS) were served in accordance with Rule 33 by mailing such copies, air mail postage prepaid, to Claude A. Fishburn, Esq., and Orville O. Gold, Esq., counsel for petitioner, at Suite 1217 Commerce Trust Building, Kansas City, Missouri, and to S. Tom Morris, Esq., counsel for respondent, at Suite 630 Amarillo Building, Amarillo, Texas; this _____ day of _____, 1965.

_____

J. Vincent Martin

OPINION

SUPREME COURT OF THE UNITED STATES

Nos. 11, 37 AND 43.—OCTOBER TERM, 1965.

William T. Graham et al., Petitioners, v. John Deere Company of Kansas City et al. (11)	On Writs of Certiorari to the United States Court of Appeals for the Eighth Circuit.
Calmar, Inc., Petitioner, v. Cook Chemical Company. (37)	
Colgate-Palmolive Company, Petitioner, v. Cook Chemical Company. (43)	

[February 21, 1966.]

MR. JUSTICE CLARK delivered the opinion of the Court.

After a lapse of 15 years, the Court again focuses its attention on the patentability of inventions under the standard of Art. I, § 8, cl. 8, of the Constitution and under the conditions prescribed by the laws of the United States. Since our last expression on patent validity, *A. & P. Tea Co.* v. *Supermarket Corp.*, 340 U. S. 147 (1950), the Congress has for the first time expressly added a third statutory dimension to the two requirements of novelty and utility that had been the sole statutory test since the Patent Act of 1793. This is the test of obviousness, *i. e.*, "whether the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the

manner in which the invention was made." Patent Act of 1952, 66 Stat. 798, 35 U. S. C. § 103 (1964 ed.).

The questions, involved in each of the companion cases before us, are what effect did the 1952 Act have upon traditional statutory and judicial tests of patentability and what definitive tests are now required. We have concluded that the 1952 Act was intended to codify judicial precedents embracing the principle long ago announced by this Court in *Hotchkiss* v. *Greenwood,* 11 How. 248 (1850), and that, while the clear language of § 103 places emphasis on an inquiry into obviousness, the general level of innovation necessary to sustain patentability remains the same.

I.

The Cases.

(a). No. 11, *Graham* v. *John Deere Co.,* an infringement suit by petitioners, presents a conflict between two Circuits over the validity of a single patent on a "Clamp for vibrating Shank Plows." The invention, a combination of old mechanical elements, involves a device designed to absorb shock from plow shanks as they plow through rocky soil and thus to prevent damage to the plow. In 1955, the Fifth Circuit had held the patent valid under its rule that when a combination produces an "old result in a cheaper and otherwise more advantageous way," it is patentable. *Jeoffroy Mfg., Inc.* v. *Graham,* 219 F. 2d 511, cert. denied, 350 U. S. 826. In 1964, the Eighth Circuit held, in the case at bar, that there was no new result in the patented combination and that the patent was, therefore, not valid. 333 F. 2d 529, reversing 216 F. Supp. 272. We granted certiorari, 379 U. S. 956. Although we have determined that neither Circuit applied the correct test, we conclude that the patent is invalid under § 103 and, therefore, we affirm the judgment of the Eighth Circuit.

(b). No. 37, *Calmar, Inc.* v. *Cook Chemical Co.*, and No. 43, *Colgate-Palmolive Co.* v. *Cook Chemical Co.*, both from the Eighth Circuit, were separate declaratory judgment actions, but were filed contemporaneously. Petitioner in *Calmar* is the manufacturer of a finger-operated sprayer with a "hold-down" cap of the type commonly seen on grocer's shelves inserted in bottles of insecticides and other liquids prior to shipment. Petitioner in *Colgate-Palmolive* is a purchaser of the sprayers and uses them in the distribution of its products. Each action sought a declaration of invalidity and noninfringement of a patent on similar sprayers isued to Cook Chemical as assignee of Baxter I. Scoggin, Jr., the inventor. By cross-action, Cook Chemical claimed infringement. The actions were consolidated for trial and the patent was sustained by the District Court. 220 F. Supp. 414. The Court of Appeals affirmed, 336 F. 2d 110, and we granted certiorari, 380 U. S. 949. We reverse.

Manifestly, the validity of each of these patents turns on the facts. The basic problems, however, are the same in each case and require initially a discussion of the constitutional and statutory provisions covering the patentability of the inventions.

II.

At the outset it must be remembered that the federal patent power stems from a specific constitutional provision which authorizes the Congress "To promote the Progress of . . . useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries . . . ." Art. I, § 8.[1] The clause is both a grant of power and a limitation. This qualified author-

[1] The provision appears in the Constitution spliced together with the copyright provision, which we omit as not relevant here. See H. R. Rep. No. 1923, 82d Cong., 2d Sess., at 4 (1952); DeWolf, An Outline of Copyright Law, p. 15 (Boston, 1925).

ity, unlike the power often exercised in the Sixteenth and Seventeenth Centuries by the English Crown, is limited to the promotion of advances in the "useful arts." It was written against the backdrop of the practices—eventually curtailed by the Statute of Monopolies—of the Crown in granting monopolies to court favorites in goods or businesses which had long before been enjoyed by the public. See Meinhardt, Inventions, Patents and Monopoly, pp. 30–35 (London, 1946). The Congress in the exercise of the patent power may not overreach the restraints imposed by the stated constitutional purpose. Nor may it enlarge the patent monopoly without regard to the innovation, advancement or social benefit gained thereby. Moreover, Congress may not authorize the issuance of patents whose effects are to remove existent knowledge from the public domain, or to restrict free access to materials already available. Innovation, advancement, and things which add to the sum of useful knowledge are inherent requisites in a patent system which by constitutional command must "promote the Progress of . . . useful Arts." This is the *standard* expressed in the Constitution and it may not be ignored. And it is in this light that patent "validity requires reference to a standard written into the Constitution." *A. & P. Tea Co.* v. *Supermarket Corp., supra,* at 154.

Within the limits of the constitutional grant, the Congress may, of course, implement the stated purpose of the Framers by selecting the policy which in its judgment best effectuates the constitutional aim. This is but a corollary to the grant to Congress of any Article I power. *Gibbons* v. *Ogden,* 9 Wheat. 1. Within the scope established by the Constitution, Congress may set out conditions and tests for patentability. *McClurg* v. *Kingsland,* 1 How. 202, 206. It is the duty of the Commissioner of Patents and of the courts in the administration of the

patent system to give effect to the constitutional standard by appropriate application, in each case, of the statutory scheme of the Congress.

Congress quickly responded to the bidding of the Constitution by enacting the Patent Act of 1790 during the second session of the First Congress. It created an agency in the Department of State headed by the Secretary of State, the Secretary of the Department of War and the Attorney General, any two of whom could issue a patent for a period not exceeding 14 years to any petitioner that "hath invented or discovered any useful art, manufacture, or device, or any improvement therein not before known or used" if the Board found that "the invention or discovery [was] sufficiently useful and important . . . ." This group, whose members administered the patent system along with their other public duties, was known by its own designation as "Commissioners for the Production of the Useful Arts."

Thomas Jefferson, who as Secretary of State was a member of the group, was its moving spirit and might well be called the "First Administrator of our Patent System." See Federico, Operation of the Patent Act of 1790, 18 J. P. O. S. 237, 238 (1936). He was not only an administrator of the patent system under the 1790 Act, but was also the author of the 1793 Patent Act. In addition, Jefferson was himself an inventor of great note. His unpatented improvements on plows, to mention but one of his inventions, won acclaim and recognition on both sides of the Atlantic. Because of his active interest and influence in the early development of the patent system, Jefferson's views on the general nature of the limited patent monopoly under the Constitution, as well as his conclusions as to conditions for patentability under the statutory scheme, are worthy of note.

Jefferson, like other Americans, had an instinctive aversion to monopolies. It was a monopoly on tea that

sparked the Revolution and Jefferson certainly did not favor an equivalent form of monopoly under the new government. His abhorrence of monopoly extended initially to patents as well. From France, he wrote to Madison urging a bill of rights provision restricting monopoly, and as against the argument that limited monopoly might serve to incite "ingenuity," he argued forcefully that "the benefit of even limited monopolies is too doubtful to be opposed to that of their general suppression," IV Writings of Thomas Jefferson (Ford ed.), at 476 (July 1788).

His views ripened, however, and in another letter to Madison after the adoption of the Bill of Rights, Jefferson stated that he would have been pleased by an express provision in this form:

> "Article 9. Monopolies may be allowed to persons for their own productions in literature, and their own inventions in the Arts, for a term not exceeding — years, but for no longer term and for no other purpose." *Id.*, at 493 (Aug. 1789).

And he later wrote:

> "Certainly an inventor ought to be allowed a right to the benefit of his invention for some certain time . . . . Nobody wishes more than I do that ingenuity should receive liberal encouragement." Letter to Oliver Evans, V Writings of Thomas Jefferson, (Washington ed.), at 75 (1807).

Jefferson's philosophy on the nature and purpose of the patent monopoly is expressed in a letter to Isaac McPherson, a portion of which we set out in the margin.[2]

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[2] "Stable ownership is the gift of social law, and is given late in the progress of society. It would be curious, then, if an idea, the fugitive fermentation of an individual brain, could, of natural right, be claimed in exclusive and stable property. If nature has made any one thing less susceptible than all others of exclusive property, it is the

He rejected a natural rights theory in intellectual property rights and clearly recognized the social and economic rationale of the patent system. The patent monopoly was not designed to secure to the inventor his natural right in his discoveries. Rather, it was a reward, an inducement, to bring forth new knowledge. The grant of an exclusive right to an invention was the creation of society—at odds with the inherent free nature of disclosed ideas—and was not to be freely given. Only inventions and discoveries which furthered human knowledge, and were new and useful, justified the special inducement of a limited private monopoly. Jefferson did not believe in granting patents for small details, obvious improvements, or frivolous devices. His writings evidence his insistence upon a high level of patentability.

As a member of the patent board for several years, Jefferson saw clearly the difficulty in "drawing a line be-

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action of the thinking power called an idea, which an individual may exclusively possess as long as he keeps it to himself; but the moment it is divulged, it forces itself into the possession of every one, and the receiver cannot dispossess himself of it. Its peculiar character, too, is that no one possesses the less, because every other possesses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening mine. That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature. When she made them like fire, expansible over all space, without lessening their density in any point, and like the air in which we breathe, move, and have our physical being, incapable of confinement or exclusive appropriation. Inventions then cannot, in nature, be a subject of property. Society may give an exclusive right to the profits arising from them, as an encouragement to men to pursue ideas which may produce utility, but this may or may not be done according to the will and convenience of the society, without claim or complaint from anybody." VI Writings of Thomas Jefferson (Washington ed.), at 180 (1814).

tween things which are worth to the public the embarrassment of an exclusive patent and those which are not." The board on which he served sought to draw such a line and formulated several rules which are preserved in Jefferson's correspondence.[5] Despite the Board's efforts, Jefferson saw "with what slow progress a system of general rules could be matured." Because of the "abundance" of cases and the fact that the investigations occupied "more time of the members of the board than they could spare from their higher duties, the whole was turned over to the judiciary, to be matured into a system, under which everyone might know when his actions were safe and lawful." Letter to McPherson, *supra*, at 181. Apparently Congress agreed with Jefferson and the Board that the courts should develop additional conditions for patentability. Although the Patent Act was amended, revised or codified some 50 times between 1790 and 1950, Congress steered clear of a statutory set of requirements other than the bare novelty and utility tests reformulated in Jefferson's draft of the 1793 Patent Act.

III.

The difficulty of formulating conditions for patentability was heightened by the generality of the constitutional grant and the statutes implementing it, together

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[5] "A machine of which we are possessed might be applied by every man to any use of which it is susceptible." Letter to Isaac McPherson, *supra*, at 181.

"A change of material should not give title to a patent. As the making a plowshare of cast rather than of wrought iron; a comb of iron instead of horn or ivory . . . ." *Ibid.*

"A mere change of form should give no right to a patent, as a high quartered shoe instead of a low one; a round hat instead of a three square, or a square bucket instead of a round one." *Id.*, at 182.

"[A combined use of old implements] A man has the right to use a saw, an axe, a plane separately; may he not combine their uses on the same piece of wood?" Letter to Oliver Evans, *supra*, at 298.

with the underlying policy of the patent system that "the things which are worth to the public the embarrassment of an exclusive patent," as Jefferson put it, must outweigh the restrictive effect of the limited patent monopoly. The inherent problem was to develop some means of weeding out those inventions which would not be disclosed or devised but for the inducement of a patent.

This Court formulated a general condition of patentability in 1850 in *Hotchkiss* v. *Greenwood*, 11 How. 248. The patent involved a mere substitution of materials—porcelain or clay for wood or metal in door knobs—and the Court condemned it, holding:[4]

> "[U]nless more ingenuity and skill . . . were required than were possessed by an ordinary mechanic acquainted with the business, there was an absence of that degree of skill and ingenuity which constitute essential elements of every invention. In other words, the improvement is the work of a skilled mechanic, not that of the inventor." At p. 267.

Hotchkiss, by positing the condition that a patentable invention evidence more ingenuity and skill than that possessed by an ordinary mechanic acquainted with the business, merely distinguished between new and useful innovations that were capable of sustaining a patent and those that were not. The *Hotchkiss* test laid the cornerstone of the judicial evolution suggested by Jefferson and left to the courts by Congress. The language in the case, and in those which followed, gave birth to "invention" as a word of legal art signifying patentable inventions. Yet, as this Court has observed, "[t]he truth is the word ['invention'] cannot be defined in such a manner as to afford any substantial aid in determining whether a par-

[4] In historical retrospect, the specific result in *Hotchkiss* flows directly from an application of one of the rules of the original board of "Commissioners," n. 3, second rule, *supra*.

ticular device involves an exercise of inventive faculty or not." *McClain* v. *Ortmayer*, 141 U. S. 419, 427 (1891), *A. & P. Tea Co.* v. *Supermarket Corp.*, 340 U. S., at 151. Its use as a label brought about a large variety of opinions as to its meaning both in the Patent Office, in the courts, and at the bar. The *Hotchkiss* formulation, however, lies not in any label, but in its functional approach to questions of patentability. In practice, *Hotchkiss* has required a comparison between the subject matter of the patent, or patent application, and the background skill of the calling. It has been from this comparison that patentability was in each case determined.

The 1952 Act.

IV.

The Act sets out the conditions of patentability in three sections. An analysis of the structure of these three sections indicates that patentability is dependent upon three explicit conditions: novelty and utility as articulated and defined in § 101, and § 102, and nonobviousness, the new statutory formulation, as set out in § 103. The first two sections, which trace closely the 1874 codification, express the "new and useful" tests which have always existed in the statutory scheme and, for our purposes here, need no clarification.[5] The pivotal

[5] "§ 101. *Inventions patentable*

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."

"§ 102. *Conditions for patentability; novelty and loss of right to patent*

"A person shall be entitled to a patent unless—

"(a) The invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

"(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in

section around which the present controversy centers is § 103. It provides:

> "§ 103. *Conditions for patentability; non-obvious subject matter*
>
> "A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

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this country, more than one year prior to the date of the application for patent in the United States, or

"(c) he has abandoned the invention, or

"(d) the invention was first patented or caused to be patented by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application filed more than twelve months before the filing of the application in the United States, or

"(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or

"(f) he did not himself invent the subject matter sought to be patented, or

"(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other."

The precursors of these sections are to be found in Act of February 21, 1793, c. 11, 1 Stat. 318; Act of July 4, 1836, c. 357, 5 Stat. 117; Act of July 8, 1870, c. 230, 16 Stat. 198; Rev. Stat. (1874) § 4886.

The section is cast in relatively unambiguous terms. Patentability is to depend, in addition to novelty and utility, upon the "non-obvious" nature of the "subject matter sought to be patented" to a person having ordinary skill in the pertinent art.

The first sentence of this section is strongly reminiscent of the language in *Hotchkiss*. Both formulations place emphasis on the pertinent art existing at the time the invention was made and both are implicitly tied to advances in that art. The major distinction is that Congress has emphasized "non-obviousness" as the operative test of the section, rather than the less definite "invention" language of *Hotchkiss* that Congress thought had lead to "a large variety" of expressions in decisions and writings. In the title itself the Congress used the phrase "Conditions for patentability: *non-obvious subject matter,*" thus focusing upon "non-obviousness" rather than "invention."[6] The Senate and House Reports, S. Rep. No. 1979, 82d Cong., 2d Sess. (1952); H. R. Rep. No. 1923, 82d Cong., 2d Sess. (1952), reflect this emphasis in these terms:

> "Section 103, for the first time in our statute, provides a condition which exists in the law and has existed for more than 100 years, but only by reason of decision of the Courts. An invention which has been made, and which is new in the sense that the same thing has not been made before, may still not be patentable if the difference between the new thing and what was known before is not considered sufficiently great to warrant a patent. That has been expressed in a large variety of ways in decisions of

[6] The corresponding provision in the preliminary draft was titled "Conditions for Patentability; *lack of invention,*" Proposed Revision and Amendment of the Patent Laws, Preliminary Draft with Notes of House Committee on the Judiciary (Committee Print, 1950).

> the courts and in writings. Section 103 states this requirement in the title. It refers to the difference between the subject matter sought to be patented and the prior art, meaning what was known before as described in section 102. If this difference is such that the subject matter as a whole would have been obvious at the time to a person skilled in the art, then the subject matter cannot be patented.
>
> "That provision paraphrases language which has often been used in decisions of the courts, and the section is added to the statute for uniformity and definiteness. This section should have a stabilizing effect and minimize great departures which have appeared in some cases." H. R. Rep., at 7; S. Rep., at 6.

It is undisputed that this section was, for the first time, a statutory expression of an additional requirement for patentability, originally expressed in *Hotchkiss*. It also seems apparent that Congress intended by the last sentence of § 103 to abolish the test it believed this Court announced in the controversial phrase "flash of genius," used in *Cuno Corp.* v. *Automatic Devices Corp.*, 314 U. S. 84 (1941).[7]

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[7] The sentence in which the phrase occurs reads: "The new device, however useful it may be, must reveal the flash of creative genius, not merely the skill of the calling." At p. 91. Although some writers and lower courts found in the language connotations as to the frame of mind of the inventors, none were so intended. The opinion approved *Hotchkiss* specifically, and the reference to "flash of creative genius" was but a rhetorical embellishment of language going back to 1833. Cf. "exercise of genius," *Shaw* v. *Cooper*, 7 Pet. 292; "inventive genius," *Rickendorfer* v. *Farber*, 92 U. S. 347 (1875); *Concrete Appliance Products Co.*; "flash of thought," *Densmore* v. *Scofield*, 102 U. S. 375 (1880); "intuitive genius," *C. A. Potts Co.* v. *Creager*, 155 U. S. 597 (1895). Rather than a more exacting standard, *Cuno* merely rhetorically restated the requirement that the subject matter sought to be patented must be beyond the skill of the calling. It was the device, not the inven-

It is contended, however, by some of the parties and by several of the *amici* that the first sentence of § 103 was intended to sweep away judicial precedents and to lower the level of patentability. Others contend that the Congress intended to codify the essential purpose reflected in existing judicial precedents—the rejection of insignificant variations and innovations of a commonplace sort—and also to focus inquiries under § 103 upon nonobviousness, rather than upon "invention," as a means of achieving more stability and predictability in determining patentability and validity.

The Reviser's Note to this section,[8] with apparent reference to *Hotchkiss*, recognizes that judicial requirements as to "lack of patentable novelty have been followed since at least as early as 1850." The note indicates that the section was inserted because it "may have some stabilizing effect and also serve as a basis for the addition at a later time of criteria which may be worked out." To this same effect are the reports of both Houses, *supra*, which state that the first sentence of the section "para-

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tion, that had to reveal the "flash of creative genius." See Boyajian, The Flash of Creative Genius, 25 J. P. O. S. 776, 780, 781 (1943); *Pacific Contact Laboratories, Inc.* v. *Solex Laboratories, Inc.*, 209 F. 2d 529, 533; *Brown & Sharpe Mfg. Co.* v. *Kar Engineering Co.*, 154 F. 2d 48, 51–52; *In re Shortell*, 142 F. 2d 292, 295–296.

[8] "There is no provision corresponding to the first sentence explicitly stated in the present statutes, but the refusal of patents by the Patent Office, and the holding of patents invalid by the courts, on the ground of lack of invention or lack of patentable novelty has been followed since at least as early as 1850. This paragraph is added with the view that an explicit statement in the statute may have some stabilizing effect, and also to serve as a basis for the addition at a later time of some criteria which may be worked out.

"The second sentence states that patentability as to this requirement is not to be negatived by the manner in which the invention was made, that is, it is immaterial whether it resulted from long toil and experimentation or from a flash of genius."

phrases the language which has often been used in decisions of the courts and the section is added to the statute for uniformity and definitiveness."

We believe that this legislative history, as well as other sources,[9] show that the revision was not intended by Congress to change the general level of patentable invention. We conclude that the section was intended merely as a codification of judicial precedents embracing the *Hotchkiss* condition, with congressional directions that inquiries into the obviousness of the subject matter sought to be patented are a prerequisite to patentability.

V.

Approached in this light, the § 103 additional condition, when followed realistically, will permit a more practical test of patentability. The emphasis on nonobviousness is one of inquiry, not quality and, as such, comports with the constitutional strictures.

While the ultimate question of patent validity is one of law, *A. & P. Tea Co.* v. *Supermarket Corp., supra,* at 155, the § 103 condition, which is but one of three conditions, each of which must be satisfied, lends itself to several basic factual inquiries. Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circum-

[9] See Efforts to Establish a Statutory Standard of Invention, Study No. 7, Senate Subcommittee on Patents, Trademarks and Copyrights, 85th Cong., 2d Sess. (Committee Print, 1961); Hearings, Subcommittee No. 3, House Committee on the Judiciary, on H. R. 3760, 82d Cong., 1st Sess. (1951).

stances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy. See Note, Subtests of "Nonobviousness," 112 U. Pa. L. Rev. 1169 (1964).

This is not to say, however, that there will not be difficulties in applying the nonobviousness test. What is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context. The difficulties, however, are comparable to those encountered daily by the courts in such frames of reference as negligence and scienter, and should be amenable to a case-by-case development. We believe that strict observance of the requirements laid down here will result in that uniformity and definitiveness which Congress called for in the 1952 Act.

While we have focused attention on the appropriate standard to be applied by the courts, it must be remembered that the primary responsibility for sifting out unpatentable material lies in the Patent Office. To await litigation is—for all practical purposes—to debilitate the patent system. We have observed a notorious difference between the standards applied by the Patent Office and by the courts. While many reasons can be adduced to explain the discrepancy, one may well be the free rein often exercised by Examiners in their use of the concept of "invention." In this coniection we note that the Patent Office is confronted with a most difficult task. Almost 100,000 applications for patents are filed each year. Of these, about 50,000 are granted with the result that the backlog now runs well over 200,000. United States Patent Office, Index of Patents, p. 1123 (1963). This is itself a compelling reason for the Commissioner to strictly adhere to the 1952 Act as interpreted here. This would, we believe, not only expedite

disposition but bring about a closer concurrence between administrative and judicial precedent.[10]

Although we conclude here that the inquiry which the Patent Office and the courts must make as to patentability must be beamed with greater intensity on the requirements of § 103, it bears repeating that we find no change in the general strictness with which the overall test is to be applied. We have been urged to find in § 103 a relaxed standard, supposedly a congressional reaction to the "increased standard" applied by this Court in its decisions over the last 20 or 30 years. The standard has remained invariable in this Court. Technology, however, has advanced—and with remarkable rapidity in the last 50 years. Moreover, the ambit of applicable art in given fields of science has widened by disciplines unheard of a half-century ago. It is but an evenhanded application to require those persons granted the benefit of a patent monopoly be charged with an awareness of these changed conditions. The same is true of the less technical, but still useful arts. He who seeks to build a better mousetrap today has a long path to tread before reaching the Patent Office.

VI.

We now turn to the application of the conditions found necessary for patentability to the cases involved here:

A. *The patent in issue in No. 11, Graham v. John Deere Co.*

This patent, No. 2,627,798 (hereinafter called the '798 patent) relates to a spring clamp which permits plow

[10] The President has appointed a Commission on the Patent System. Executive Order No. 11215, 30 Fed. Reg. 4661 (April 10, 1965). It is hoped that its studies may develop more efficient administrative procedures and techniques that will further expedite dispositions and at the same time insure the strict application of appropriate tests of patentability.

shanks to be pushed upward when they hit obstructions in the soil, and then springs the shanks back into normal position when the obstruction is passed over. The device, which we show diagrammatically in the accompanying sketches (Appendix, Fig. 1), is fixed to the plow frame as a unit. The mechanism around which the controversy centers is basically a hinge. The top half of it, known as the upper plate (marked 1 in the sketches), is a heavy metal piece clamped to the plow frame (2) and is stationary relative to the plow frame. The lower half of the hinge, known as the hinge plate (3), is connected to the rear of the upper plate by a hinge pin (4) and rotates downward with respect to it. The shank (5), which is bolted to the forward end of the hinge plate (at 6), runs beneath the plate and parallel to it for about nine inches, passes through a stirrup (7), and then continues backward for several feet curving down toward the ground. The chisel (8), which does the actual plowing, is attached to the rear end of the shank. As the plow frame is pulled forward, the chisel rips through the soil, thereby plowing it. In the normal position, the hinge plate and the shank are kept tight against the upper plate by a spring (9), which is atop the upper plate. A rod (10) runs through the center of the spring, extending down through holes in both plates and the shank. Its upper end is bolted to the top of the spring while its lower end is hooked against the underside of the shank.

When the chisel hits a rock or other obstruction in the soil, the obstruction forces the chisel and the rear portion of the shank to move upward. The shank is pivoted (at 11) against the rear of the hinge plate and pries open the hinge against the closing tendency of the spring. (See sketch labeled "Open Position," Appendix, Fig. 1.) This closing tendency is caused by the fact that, as the hinge is opened, the connecting rod is pulled down-

ward and the spring is compressed. When the obstruction is passed over, the upward force on the chisel disappears and the spring pulls the shank and hinge plate back into their original position. The lower, rear portion of the hinge plate is constructed in the form of a stirrup (6) which brackets the shank, passing around and beneath it. The shank fits loosely into the stirrup (permitting a slight up and down play). The stirrup is designed to prevent the shank from recoiling away from the hinge plate, and thus prevents excessive strain on the shank near its bolted connection. The stirrup also girds the shank, preventing it from fishtailing from side to side.

In practical use, a number of spring-hinge-shank combinations are clamped to a plow frame, forming a set of ground-working chisels capable of withstanding the shock of rocks and other obstructions in the soil without breaking the shanks.

Background of the Patent.

Chisel plows, as they are called, were developed for plowing in areas where the ground is relatively free from rocks or stones. Originally, the shanks were rigidly attached to the plow frames. When such plows were used in the rocky, glacial soils of some of the Northern States, they were found to have serious defects. As the chisels hit buried rocks, a vibratory motion was set up and tremendous forces were transmitted to the shank near its connection to the frame. The shanks would break. Graham, one of the petitioners, sought to meet that problem, and in 1950 obtained a patent, U. S. No. 2,493,811, on a spring clamp which solved some of the difficulties. Graham and his companies manufactured and sold the '811 clamps. In 1950, Graham modified the '811 structure and filed for a patent. That patent, the one in issue, was granted in 1953. This suit against competing plow manufacturers resulted from charges by petitioners that several of respondents' devices infringed the '798 patent.

The Prior Art.

Five prior patents indicating the state of the art were cited by the Patent Office in the prosecution of the '798 application. Four of these patents, 10 other United States patents and two prior use spring clamp arrangements not of record in the '798 file wrapper were relied upon by respondent as revealing the prior art. The District Court and the Court of Appeals found that the prior art "as a whole in one form or another contains all of the mechanical elements of the '798 Patent." One of the prior use clamp devices not before the Patent Examiner—Glencoe—was found to have "all of the elements."

We confine our discussion to the prior patent of Graham, '811, and to the Glencoe clamp device, both among the references asserted by respondents. The Graham '811 and '798 patent devices are similar in all elements, save two; (1) the stirrup and the bolted connection of the shank to the hinge plate do not appear in '811; and (2) the position of the shank is reversed, being placed in patent '811 above the hinge plate, sandwiched between it and the upper plate. The shank is held in place by the spring rod which is hooked against the bottom of the hinge plate passing through a slot in the shank. Other differences are of no consequence to our examination. In practice the '811 patent arrangement permitted the shank to wobble or fishtail because it was not rigidly fixed to the hinge plate; moreover, as the hinge plate was below the shank, the latter caused wear on the upper plate, a member difficult to repair or replace.

Graham's '798 patent application contained 12 claims. All were rejected as not distinguished from the Graham '811 patent. The inverted relationship of the shank was specifically rejected as was the bolting of the shank to the hinge plate. The Patent Office examiner found these to be "matters of design well within the expected skill of

the art and devoid of invention." Graham withdrew the original claims and substituted the two new ones which are substantially those in issue here. His contention was that wear was reduced in patent '798 between the shank and the heel or rear of the upper plate.[11] He also emphasized several new features, the relevant one here being that the bolt used to connect the hinge plate and shank maintained the upper face of the shank in continuing and constant contact with the underface of the hinge plate.

Graham did not urge before the Patent Office the greater "flexing" qualities of the '798 patent arrangement which he so heavily relied on in the courts. The sole element in patent '798 which petitioners argue before us is the interchanging of the shank and hinge plate and the consequences flowing from this arrangement. The contention is that this arrangement—which petitioners claim is not disclosed in the prior art—permits the shank to flex under stress for its *entire* length. As we have sketched (see sketch, "Graham '798 Patent" in Appendix, Fig. 2), when the chisel hits an obstruction the resultant force (A) pushes the rear of the shank upward and the shank pivots at the underface of the upper plate at its rear (C). The natural tendency is for that portion of the shank between the pivot point and the bolted connection (*i. e.*, between C and D) to bow downward and away from the hinge plate. The maximum

[11] In '811, where the shank was above the hinge plate, an upward movement of the chisel forced the shank up against the underside of the rear of the upper plate. The upper plate thus acted as the fulcrum about which the hinge was pried open. Because of this, as well as the location of the hinge pin, the shank rubbed against the heel of the upper plate causing wear both to the plate and to the shank. By relocating the hinge pin and by placing the hinge plate between the shank and the upper plate, as in 798, the rubbing was eliminated and the wear point was changed to the hinge plate, a member more easily removed or replaced for repair.

distance (B) that the shank moves away from the plate is slight—for emphasis, greatly exaggerated in the sketches. This is so because of the strength of the shank and the short—nine inches or so—length of that portion of the shank between (C) and (D). On the contrary, in patent '811 (see sketch, "Graham '811 Patent" in Appendix, Fig. 2), the pivot point is the upper plate at point (c); and while the tendency for the shank to bow between points (c) and (d) is the same as in '798, the shank is restricted because of the underlying hinge and cannot flex as freely. In practical effect, the shank flexes only between points (a) and (c), and not along the entire length of the shank, as in '798. Petitioners say that this difference in flex, though small, effectively absorbs the termendous forces of the shock of obstructions whereas prior art arrangements failed.

The Obviousness of the Differences.

We cannot agree with petitioners. We assume that the prior art does not disclose such an arrangement as petitioners claim in patent '798. Still we do not believe that the argument on which petitioners' contention is bottomed supports the validity of the patent. The tendency of the shank to flex is the same in all cases. If free-flexing, as petitioners now argue, is the crucial difference above the prior art, then it appears evident that the desired result would be obtainable by not boxing the shank within the confines of the hinge.[12] The only other effective place available in the arrangement was to attach it below the hinge plate and run it through a

[12] Even petitioners' expert testified to that effect:

"Q. Given the same length of the forward portion of the clamp . . . you would anticipate that the magnitude of flex [in 798] would be precisely the same or substantially the same as in 811, wouldn't you?

"A. I would think so."

stirrup or bracket that would not disturb its flexing qualities. Certainly a person having ordinary skill in the prior art, given the fact that the flex in the shank could be utilized more effectively if allowed to run the entire length of the shank, would immediately see that the thing to do was what Graham did, *i. e.*, invert the shank and the hinge plate.

Petitioners' argument basing validity on the free-flex theory raised for the first time on appeal is reminiscent of *Lincoln Engineering Co.* v. *Stewart-Warner Corp.*, 303 U. S. 845 (1938), where the Court called such an effort "an afterthought. No such function . . . is hinted at in the specifications of the patent. If this were so vital an element in the functioning of the apparatus it is strange that all mention of it was omitted." At p. 550. No "flexing" argument was raised in the Patent Office. Indeed, the trial judge specifically found that "flexing is not a claim of the patent in suit . . ." and would not permit interrogation as to flexing in the accused devices. Moreover, the clear testimony of petitioners' experts shows that the flexible advantages flowing from the '798 arrangement are not, in fact, a significant feature in the patent.[13]

We find no nonobvious facets in the '798 arrangement. The wear and repair claims were sufficient to overcome

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[13] "Q. . . . Do you regard the small degree of flex in the forward end of the shank that lies between the pivot point and the point of spring attachment to be of any significance or any importance to the functioning of a device such as 798? A. Unless you are approaching the elastic limit, I think this flexing will reduce the maximum stress at the point of pivot there, where the maximum stress does occur. I think it will reduce that. I don't know how much.

"Q. Do you think it is a substantial factor, a factor of importance in the functioning of the structure? A. Not a great factor, no."

The same expert previously testified similarly in *Jeoffroy, supra.*

the patent examiner's original conclusions as to the validity of the patent. However, some of the prior art, notably Glencoe, was not before him. There the hinge plate is below the shank but, as the courts below found, all of the elements in the '798 patent are present in the Glencoe structure. Furthermore, even though the position of the shank and hinge plate appears reversed in Glencoe, the mechanical operation is identical. The shank there pivots about the underside of the stirrup, which in Glencoe is *above* the shank. In other words, the stirrup in Glencoe serves exactly the same function as the heel of the hinge plate in '798. The mere shifting of the wear point to the heel of the '798 hinge plate from the stirrup of Glencoe—itself a part of the hinge plate—presents no operative mechanical distinctions, much less nonobvious differences.

B. *The Patent in issue in No. 37, Calmar, Inc. v. Cook Chemical Co. and in No. 43, Colgate Palmolive Co. v. Cook Chemical Co.*

The single patent [14] involved in these cases relates to a plastic finger sprayer with a "hold down" lid used as a built-in dispenser for containers or bottles packaging liquid products, principally household insecticides. Only the first two of the four claims in the patent are involved here and we, therefore, limit our discussion to them. We do not set out those claims here since they are printed in 220 F. Supp., at pp. 417–418.

In essence the device here combines a finger-operated pump sprayer, mounted in a container or bottle by means of a container cap, with a plastic overcap which screws

[14] The patent is U. S. No. 2,870,943 issued in 1959 to Cook Chemical Co. as assignee of Burton I. Scoggin, Jr., the inventor. In No. 37, Calmar is the manufacturer of an alleged infringing device, and, in No. 43, Colgate is a purchaser of Calmar and user of its device.

over the top of and depresses the sprayer (see Figure 3 in the Appendix). The pump sprayer passes through the container cap and extends down into the liquid in the container; the overcap fits over the pump sprayer and screws down on the outside of a collar mounting or retainer which is molded around the body of the sprayer. When the overcap is screwed down on this collar mounting a seal is formed by the engagement of a circular ridge or rib located above the threads on the collar mounting with a mating shoulder located inside the overcap above its threads.[15] The overcap, as it is screwed down, depresses the pump plunger rendering the pump inoperable and when the seal is effected, any liquid which might seep into the overcap through or around the pump is prevented from leaking out of the overcap. The overcap serves also to protect the sprayer head and prevent damage to it during shipment or merchandising. When the overcap is in place it does not reach the cap of the container or bottle and in no way engages it since a slight space is left between those two pieces.

The device, called a shipper-sprayer in the industry, is sold as an integrated unit with the overcap in place enabling the insecticide manufacturer to install it on the container or bottle of liquid in a single operation in an automated bottling process. The ultimate consumer simply unscrews and discards the overcap, the pump plunger springs up and the sprayer is ready for use.

The Background of the Patent.

For many years manufacturers engaged in the insecticide business had faced a serious problem in developing sprayers that could be integrated with the containers or bottles in which the insecticides were marketed. Orig-

[15] Our discussion here relates to the overcap seal. The container itself is sealed in the customary way through the use of a container gasket located between the container and the container cap.

inally, insecticides were applied through the use of tin sprayers, not supplied by the manufacturer. In 1947, Cook Chemical, an insecticide manufacturer, began to furnish its customers with plastic pump dispensers purchased from Calmar. The dispenser was an unpatented finger-operated device mounted in a perforated cardboard holder and hung over the neck of the bottle or container. It was necessary for the ultimate consumer to remove the cap of the container and insert and attach the sprayer to the latter for use.

Hanging the sprayer on the side of the container or bottle was both expensive and troublesome. Packaging for shipment had to be a hand operation, and breakage and pilferage as well as the loss of the sprayer during shipment and retail display often occurred. Cook Chemical urged Calmar to develop an integrated sprayer that could be mounted directly in a container or bottle during the automated filling process and that would not leak during shipment or retail handling. Calmar did develop some such devices but for various reasons they were not completely successful. The situation was aggravated in 1954 by the entry of Colgate-Palmolive into the insecticide trade with its product marketed in aerosol spray cans. These containers, which used compressed gas as a propellent to dispense the liquid, did not require pump sprayers.

During the same year Calmar was acquired by the Drackett Company. Cook Chemical became apprehensive of its source of supply for pump sprayers and decided to manufacture its own through a subsidiary, Bakan Plastics, Inc. Initially, it copied its design from the unpatented Calmar sprayer, but an officer of Cook Chemical, Scoggin, was assigned to develop a more efficient device. By 1956 Scoggin had perfected the shipper-sprayer in suit and a patent was granted in 1959 to Cook Chemical as his assignee. In the interim Cook Chemical began to use Scoggin's device and it was also

marketed to the trade. The device was well received and soon became widely used.

In the meanwhile, Calmar employed two engineers, Corsette and Cooprider, to perfect a shipper-sprayer and by 1958 it began to market its SS–40, a device very much similar to Scoggin's. When the Scoggin patent issued, Cook Chemical charged Calmar's SS–40 with infringement and this suit followed.

The Opinions of the District Court and the Court of Appeals.

At the outset it is well to point up that the parties have always disagreed as to the scope and definition of the invention claimed in the patent in suit. Cook Chemical contends that the invention encompasses a unique combination of admittedly old elements and that patentability is found in the result produced. Its expert testified that the invention was "the first commercially successful, inexpensive, integrated shipping closure pump unit which permitted automated assembly with a container of household insecticide or similar liquids to produce a practical ready-to-use package which should be shipped without external leakage and which was so organized that the pump unit with its hold-down cap could be itself assembled and sealed and then later assembled and sealed on the container without breaking the first seal." Cook Chemical stresses the long-felt need in the industry for such a device; the inability of others to produce it; and its commercial success—all of which, contends Cook, evidences the nonobvious nature of the device at the time it was developed. On the other hand, Calmar says that the differences between Scoggin's shipper-sprayer and the prior art relate only to the design of the overcap and that the differences are so inconsequential that the device as a whole would have been obvious at the time of its invention to a person having ordinary skill in the art.

Both courts accepted Cook Chemical's contentions. While the exact basis of the District Court's holding is uncertain, it did find the subject matter of the patent new, useful and nonobvious. It concluded that Scoggin "had produced a sealed and protected sprayer unit which the manufacturer need only screw onto the top of its container much in the same fashion as a simple cap." 220 F. Supp., at 418. Its decision seems to be bottomed on the finding that the Scoggin sprayer solved the long-standing problem that had confronted the industry.[16] The Court of Appeals also found validity in the "novel 'marriage' of the sprayer with the insecticide container" which took years in discovery and in "the immediate commercial success" which it enjoyed. While finding that the individual elements of the invention were "not novel *per se*" the court found "nothing in the prior art suggesting Scoggin's unique combination of these old features as would solve the problem . . . which for years besat the insecticide industry." It concluded that "the . . . [device] . . . meets the exacting standard required for a combination of old elements to rise to the level of patentable invention by fulfilling the long-felt need with an economical, efficient, utilitarian apparatus which achieved novel results and immediate commercial success." 336 F. 2d, at 114.

The Prior Art.

Only two of the five prior art patents cited by the Patent Office Examiner in the prosecution of Scoggin's application are necessary to our discussion, *i. e.*, Lohse

[16] "By the same reasoning, may it not also be said that if [the device] solved a long-sought need, it was likewise novel? If it meets the requirements of being new, novel, and useful, it was the subject of invention, although it may have been a short step, nevertheless it was the last step that ended the journey. The last step is the one that wins and he who takes it when others could not, is entitled to patent protection." 220 F. Supp., at 421.

U. S. Patent No. 2,119,884 (1938) and Mellon U. S. Patent No. 2,586,687 (1952). Others are cited by Calmar that were not before the Examiner, but of these our purposes require discussion only of the Livingstone U. S. Patent No. 2,751,480 (1953). Simplified drawings of each of these patents are reproduced in the Appendix, Figs. 4–6, for comparison and description.

The Lohse patent (Fig. 4) is a shipper-sprayer designed to perform the same function as Scoggin's device. The differences, recognized by the District Court, are found in the overcap seal which in Lohse is formed by the skirt of the overcap engaging a washer or gasket which rests upon the upper surface of the container cap. The court emphasized that in Lohse "there are no seals above the threads and below the sprayer head." 220 F. Supp., at 419–420.

The Mellon patent (Fig. 5), however, discloses the idea of effecting a seal above the threads of the overcap. Mellon's device, likewise a shipper-sprayer, differs from Scoggin's in that its overcap screws directly on the container, and a gasket, rather than a rib, is used to effect the seal.

Finally, Livingstone (Fig. 6) shows a seal above the threads accomplished without the use of a gasket or washer.[17] Although Livingstone's arrangement was designed to cover and protect pouring spouts, his sealing feature is strikingly similar to Scoggin's. Livingstone uses a tongue and groove technique in which the tongue, located on the upper surface of the collar, fits into a groove on the inside of the overcap. Scoggin employed the rib and shoulder seal in the identical position and with less efficiency because the Livingstone technique

[17] While the sealing feature was not specifically claimed in the Livingstone patent, it was disclosed in the drawings and specifications. Under long-settled law the feature became public property. *Miller* v. *Brass Company*, 104 U. S. 350, 352 (1881).

is inherently a more stable structure, forming an interlock that withstands distortion of the overcap when subjected to rough handling. Indeed, Cook Chemical has now incorporated the Livingstone closure into its own shipper-sprayers as had Calmar in its SS–40.

The Invalidity of the Patent.

Let us first return to the fundamental disagreement between the parties. Cook Chemical, as we noted at the outset, urges that the invention must be viewed as the overall combination, or—putting it in the language of the statute—that we must consider the subject matter sought to be patented taken as a whole. With this position, taken in the abstract, there is, of course, no quibble. But the history of the prosecution of the Scoggin application in the Patent Office reveals a substantial divergence in respondent's present position.

As originally submitted, the Scoggin application contained 15 claims which in very broad terms claimed the entire combination of spray pump and overcap. No mention of, or claim for, the sealing features were made. All 15 claims were rejected by the Examiner because (1) the applicant was vague and indefinite as to what the invention was, and (2) the claims were met by Lohse. Scoggin canceled these claims and submitted new ones. Upon a further series of rejections and new submissions, the Patent Office Examiner, after an office interview, at last relented. It is crystal-clear that after the first rejection, Scoggin relied entirely upon the sealing arrangement as the exclusive patentable difference in his combination. It is likewise clear that it was on that feature that the Examiner allowed the claims. In fact, in a letter accompanying the final submission of claims, Scoggin, through his attorney, stated that "agreement was reached between the Honorable Examiner and applicant's attorney relative to *limitations* which must be in the claims in

order to define novelty over the previously applied disclosure of Lohse when considered in view of the newly cited patents of Mellon and Darley, Jr." (Italics added.)

Moreover, those limitations were specifically spelled out as (1) the use of a rib seal and (2) an overcap whose lower edge did not contact the container cap. Mellon was distinguished, as was the Darley patent, *infra*, n. 18, on the basis that although it disclosed a hold-down cap with a seal located above the threads, it did not disclose a rib seal disposed in such position as to cause the lower peripheral edge of the overcap "to be maintained out of contacting relationship with [the container] cap . . . when . . . [the overcap] was screwed [on] tightly . . . ." Scoggin maintained that the "obvious modification" of Lohse in view of Mellon would be merely to place the Lohse gasket above the threads with the lower edge of the overcap remaining in tight contact with the container cap or neck of the container itself. In other words, the Scoggin invention was limited to the use of a rib—rather than a washer or gasket—and the existence of a slight space between the overcap and the container cap.

It is, of course, well-settled that an invention is construed not only in the light of the claims, but also with reference to the file wrapper or prosecution history in the Patent Office. *Hogg* v. *Emerson*, 11 How. 587 (1850); *Crawford* v. *Heysinger*, 123 U. S. 589 (1887). Claims as allowed must be read and interpreted with reference to rejected ones and to the state of the prior art; and claims that have been narrowed in order to obtain the issuance of a patent by distinguishing the prior art cannot be sustained to cover that which was previously by limitation eliminated from the patent. *Powers-Kennedy Co.* v. *Concrete Co.*, 282 U. S. 175, 185–186 (1930); *Schriber Co.* v. *Cleveland Trust Co.*, 311 U. S. 211, 220–221 (1940).

Here, the patentee obtained his patent only by accepting the limitations imposed by the Examiner. The claims were carefully drafted to reflect these limitations and Cook Chemical is not now free to assert a broader view of Scoggin's invention. The subject matter as a whole reduces, then, to the distinguishing features clearly incorporated into the claims. We now turn to those features.

As to the space between the skirt of the overcap and the container cap, the District Court found:

> "Certainly without a space so described there could be no inner seal with the cap, but such a space is not new or novel, it is necessary to the formation of the seal within the hold-down cap.
>
> *"To me this language is descriptive of an element of the patent, but not a part of the invention.* It is too simple, really, to require much discussion. In this device the hold-down cap was intended to perform two functions—to hold down the sprayer head and to form a solid tight seal between the shoulder and the collar below. In assembling the element it is necessary to provide this space in order to form the seal." 220 F. Supp., at 420. (Italics added.)

The court correctly viewed the significance of that feature. We are at a loss to explain the Examiner's allowance on the basis of such a distinction. Scoggin was able to convince the Examiner that Mellon's cap contacted the bottle neck while his did not. Although the drawings included in the Mellon application show that the cap might touch the neck of the bottle when fully screwed down, there is nothing—absolutely nothing—which indicates that the cap was designed at any time to *engage* the bottle neck. It is palpably evident that Mellon embodies a seal formed by a gasket com-

pressed between the cap and the bottle neck. It follows that the cap in Mellon will not seal if it does not bear down on the gasket and this would be impractical, if not impossible, under the construction urged by Scoggin before the Examiner. Moreover, the space so strongly asserted by Cook Chemical appears quite plainly on the Livingstone device, a reference not cited by the Examiner.

The substitution of a rib built into a collar likewise presents no patentable difference above the prior art. It was fully disclosed and dedicated to the public in the Livingstone patent. Cook Chemical argues, however, that Livingstone is not in the *pertinent* prior art because it relates to liquid containers having pouring spouts rather than pump sprayers. Apart from the fact that respondent made no such objection to similar references cited by the Examiner,[18] so restricted a view of the applicable prior art is not justified. The problems confronting Scoggin and the insecticide industry were not insecticide problems; they were mechanical closure problems. Closure devices in such a closely related art as pouring spouts for liquid containers are at the very least pertinent references. See, II Walker, Patents § 260 (Deller ed. 1937).

Cook Chemical insists, however, that the development of a workable shipper-sprayer eluded Calmar, who had long and unsuccessfully sought to solve the problem. And, further, that the long-felt need in the industry for a device such as Scoggin's together with its wide commercial success supports its patentability. These legal in-

[18] In addition to Livingstone and Mellon, the Examiner cited Slade, U. S. Patent No. 2,844,290 (hold-down cap for detergent cans having a pouring spout); Nilson, U. S. Patent No. 2,118,222 (combined cap and spout for liquid dispensing containers); Darley, Jr., U. S. Patent No. 1,447,712 (containers for toothpaste, cold creams and other semi-liquid substances).

ferences or subtests do focus attention on economic and motivational rather than technical issues and are, therefore, more susceptible to judicial treatment than are the highly technical facts often present in patent litigation. See Learned Hand in *Reiner* v. *I. Leon Co.*, 285 F. 2d 501, 504 (1960). See also Comment, Subtests of "Nonobviousness," 112 Pa. L. Rev. 1169 (June 1964). Such inquiries may lend a helping hand to the judiciary which, as Mr. Justice Frankfurter observed, is most ill-fitted to discharge the technological duties cast upon it by patent legislation. *Marconi Wireless Co.* v. *United States*, 320 U. S. 1, 60 (1943). They may also serve to "guard against slipping into hindsight," *Monroe Auto Equipment Co.* v. *Superior Industries, Inc.*, 332 F. 2d 406, 412 (1964), and to resist the temptation to read into the prior art the teachings of the invention in issue.

However, these factors do not, in the circumstances of this case, tip the scales of patentability. The Scoggin invention, as limited by the Patent Office and accepted by Scoggin, rests upon exceedingly small and quite nontechnical mechanical differences in a device which was old in the art. At the latest, those differences were rendered apparent in 1953 by the appearance of the Livingstone patent, and unsuccessful attempts to reach a solution to the problems confronting Scoggin made before that time became wholly irrelevant. It is also irrelevant that no one apparently chose to avail themselves of knowledge stored in the Patent Office and readily available by the simple expedient of conducting a patent search—a prudent and nowdays common preliminary to well organized research. *Mast, Foos & Co.* v. *Stover Mfg. Co.*, 177 U. S. 485 (1900). To us, the limited claims of the Scoggin patent are clearly evident from the prior art as it stood at the time of the invention.

We conclude that the claims in issue in the Scoggin patent must fall as not meeting the test of § 103, since

the differences between them and the pertinent prior art would have been obvious to a person reasonably skilled in that art.

The judgment of the Court of Appeals in No. 11 is affirmed. The judgment of the Court of Appeals in Nos. 37 and 43 is reversed and the cases remanded to the District Court for disposition not inconsistent with this opinion.

It is so ordered.

MR. JUSTICE STEWART took no part in the consideration or decision of Nos. 37 and 43.

MR. JUSTICE FORTAS took no part in the consideration or decision of these cases.

Figure 1.—GRAHAM '798 PATENT

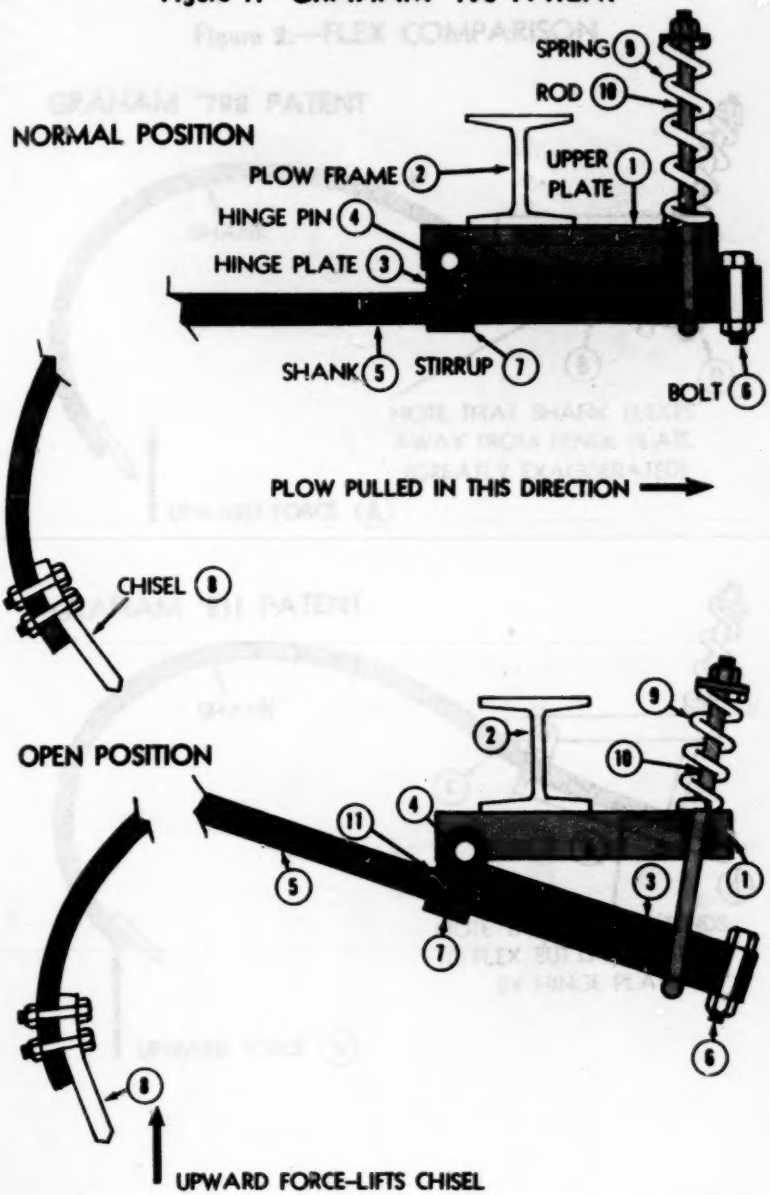

Figure 2.—FLEX COMPARISON

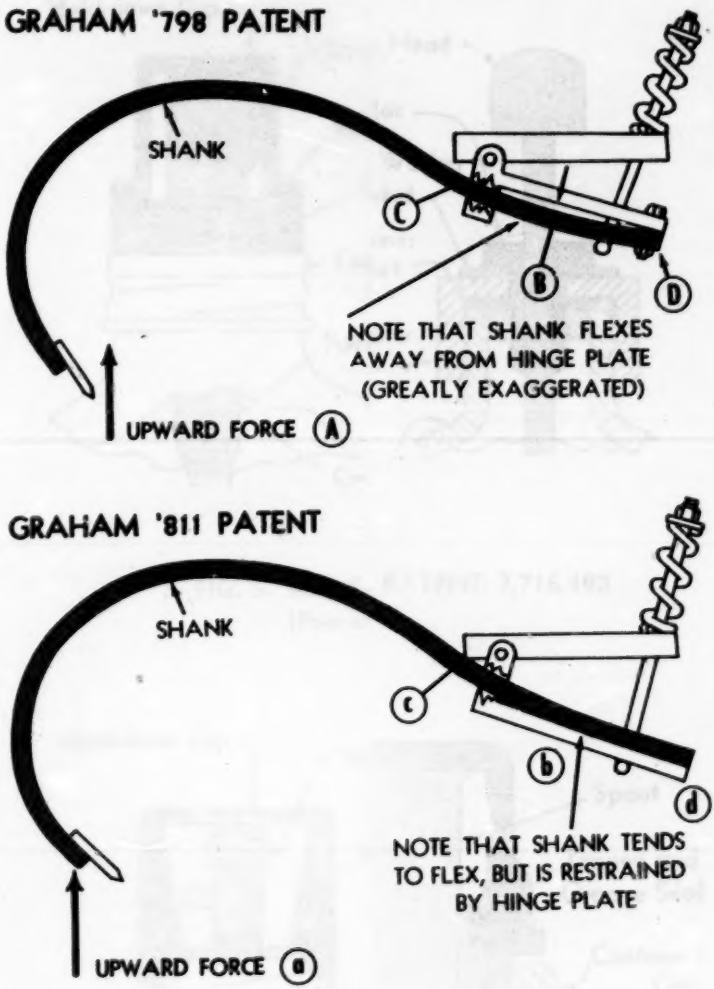

FIG. 3. SCOGGIN PATENT 2,870,943
(The Patent in Issue)

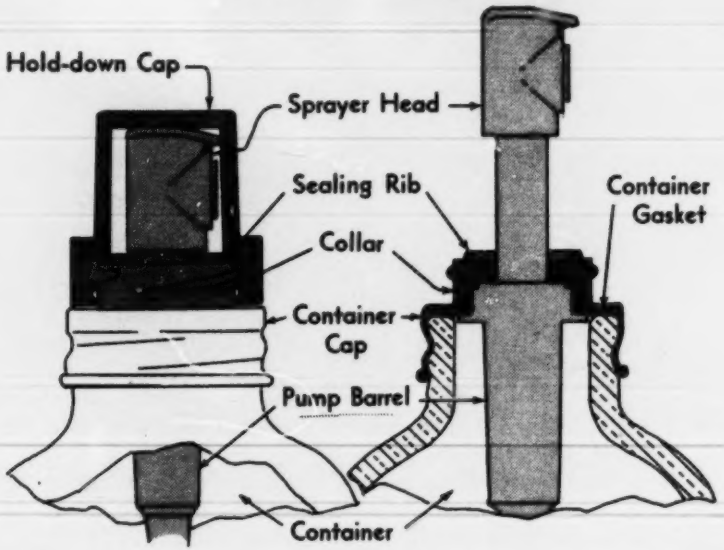

FIG. 4. LOHSE PATENT 2,119,884
(Prior art 1938)

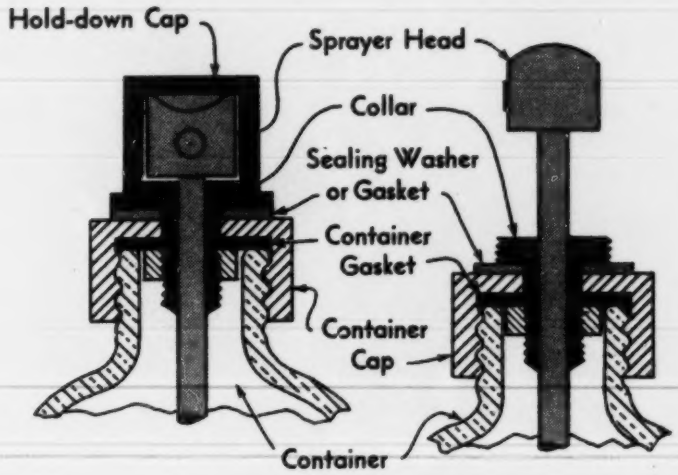

FIG. 5. MELLON PATENT 2,586,687
(Prior art 1952)

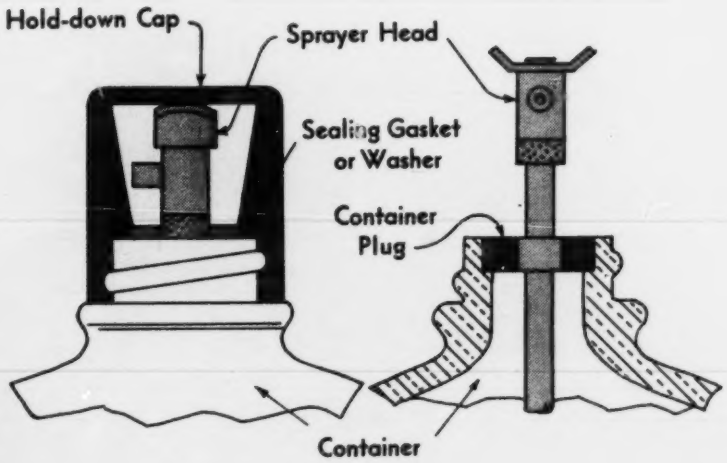

FIG. 6. LIVINGSTONE PATENT 2,715,480
(Prior art 1953)